CAI-2005-20

UNITED STATES
DEPARTMENT OF LABOR
MINE SAFETY AND HEALTH ADMINISTRATION
COAL MINE SAFETY AND HEALTH

REPORT OF INVESTIGATION

Underground Coal Mine

Fatal Roof Fall Accident
December 15, 2005

Adkins Branch Mine No. 1A
Arjay Mining, Inc.
Panther, McDowell County, West Virginia
ID No. 46-09106

Accident Investigators

James R Humphrey
Coal Mine Safety and Health Inspector

Sherman L. Slaughter
Coal Mine Safety and Health Specialist

Jon Braenovich
Mining Engineer
Supervisory, Coal Mine Safety and Health Inspector, Roof Control

Originating Office
Mine Safety and Health Administration
District 4
100 Bluestone Road
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OVERVIEW

At approximately 12:40 p.m. on Thursday, December 15, 2005, a 35-year old roof bolting machine operator with 11 years mining experience was fatally injured in a roof fall accident. The victim was preparing to install the first row of roof support in the first cut taken from a highwall for a new drift opening when the mine roof collapsed. In an effort to avoid the falling rock, the victim moved inby the machine's automated temporary roof support (ATRS) towards the face, where he was struck by the falling material.

The highwall was not developed in consolidated, competent rock for a height sufficient to insure stability above the mine openings. The ground control plan did not include any methods to be used to control the hazardous highwall conditions or precautions to be taken to keep persons from being exposed to the ground hazards. Hazardous conditions were either not recognized or ignored during numerous workplace examinations. The accident resulted from failure to follow proper mining practices, procedures, and the applicable regulations. The lack of effective administrative controls contributed to the accident.

GENERAL INFORMATION

The Arjay Mining, Inc., Adkins Branch Mine No. 1A, is located near Panther, in McDowell County, West Virginia. The mine operates in the Lower War Eagle bituminous coal seam which averages forty-eight inches in height. The mine was being developed with four drift openings, which were driven to a maximum depth of 60 feet in the number two and three entries.

At the time of the accident, the mine employed six persons and operated during the day shift only. Coal was mined with a remotely operated continuous mining machine, which loaded into shuttle cars. Roof bolting was accomplished utilizing a Fletcher DDO-15 roof bolting machine, equipped with a scissors type ATRS. Mining operations began Monday, December 12, 2005.

The mine operator, Arjay Mining, Inc., was contracted by Riverside Energy Company, LLC to mine the Lower War Eagle bituminous coal seam at the Adkins Branch Mine No. 1A. Engineering services, including highwall and mine bench design, site development, and regulatory plan submittals, were provided by Riverside Energy Company, LLC.

The principal officers for Arjay Mining, Inc., at the time of the accident were:

Michael Tolbert.....Owner/President
O. A. Stump, Jr. ..... Superintendent/Lessee of the equipment
J. C. Woodridge .....Mine Foreman

The principal officers for Riverside Energy Company, LLC at the time of the accident were:

Sam Hatcher.....President
Robbie Ortiz..... Mining Engineer

The Mine Safety and Health Administration (MSHA) had not conducted an inspection of the Adkins Branch Mine prior to the accident. On Tuesday, December 6, 2005, Arjay Mining, Inc., submitted a letter to MSHA placing the mine in an active non-producing status. On Wednesday, December 14, 2005, one day prior to the accident, Arjay Mining, Inc., submitted a letter to MSHA changing the mine status to active-producing. The letter did not indicate that production had already begun on December 12; rather, it indicated that the mine would begin production on December 14 or 15.

DESCRIPTION OF ACCIDENT

On December 15, 2005, the working shift began at 07:00 a.m. Denny J. East and Johnny Gorsky, roof bolting machine operators, moved the roof bolting machine into the face of the #2 entry and installed four fully grouted resin roof bolts and a metal strap to complete the roof bolting in the entry. Roger Sexton, electrician, and J. C. Woolridge, Mine Foreman, moved the continuous mining machine and began mining the first cut from the highwall for the number one entry. Coal from the number one entry was loaded into the

bucket of a front end loader which was being operated by O. A. Stump Jr., lessee of the mining equipment. East and Gorsky moved the roof bolting machine from the number two entry to the number three entry and installed four rows of roof bolts with straps.

The roof bolting machine was then moved in an outby direction in the number three entry and parked immediately inby the edge of the highwall, to keep it out of the rain. Sexton completed mining the number one entry, advancing the working face approximately ten feet. The continuous mining machine was then withdrawn and a pre-constructed canopy was installed. Flat sheet metal was placed on top of the pre-constructed canopy by Ricky Johnson, trainee-general outside laborer. The flat sheet metal was not secured to the top of the canopy. Upon completion of the canopy installation, Sexton, Johnson, and Woolridge went to the mine office trailer to eat lunch while East and Gorsky bolted the unsupported mine roof of the number one entry.

Stump drove the front-end loader back to a nearby mine from where it had previously been borrowed. East moved the roof bolting machine into the number one entry and set the ATRS against the mine roof. However, the roof bolting machine was too far forward, so East lowered the ATRS and backed the machine several feet outby. East and Gorsky retrieved a metal roof strap from the rear of the roof bolting machine and placed it over the protective canopies. Gorsky and East raised the canopies to support the metal strap against the mine roof to better hold the strap in place during installation.

At approximately 12:40 p.m. Gorsky turned his back toward the working face to retrieve a piece of drill steel from the drill station tray, and heard the mine roof collapsing behind him. Gorsky yelled to warn East and ran outby as roof rock continued to fall. Gorsky stopped at the rear of the roof bolting machine. He looked back toward the face and saw East's leg protruding from beneath the fallen roof rock. East was lying on the mine floor between the roof bolting machine's ATRS and the working face. Portions of the mine roof continued to fall as Gorsky ran to the mine office trailer to retrieve help.

Sexton and Gorsky returned to the number one entry as Woolridge traveled from the mine bench, along the mine haulage road to another mine site to get Stump and to call for an ambulance. The only communication system from the mine to the nearest point of medical assistance was a cellular telephone which was located in Stump's personal pickup truck, located at the other mine site.

An excavator from another work site was brought to the accident site and used to pull the roof bolting machine out of the working place, to remove the installed canopy and to remove the fallen roof rock. The victim was recovered at approximately 6:00 p.m. and transported via McDowell County Ambulance Service. The McDowell County Medical Examiner pronounced the time and cause of death at the accident site. The victim was taken to the State Medical Examiner located at Charleston, West Virginia.

INVESTIGATION OF THE ACCIDENT

On Thursday, December 15, 2005, at 1:45 p.m. Jules Gautier, Supervisory Mine Safety and Health Inspector, MSHA Pineville Field Office, was notified of the accident. MSHA accident investigators were immediately dispatched to the mine. A 103(k) order was issued to insure the safety of all persons at the mine. The investigation was conducted in cooperation with MSHA Technical Support personnel, the West Virginia Office of Miners' Health, Safety, and Training (WVOMHST), with the assistance of the mine operator and mine employees. Persons who participated in the accident investigation can be found in Appendix A. Photographs and relevant measurements were taken, the accident site was surveyed and drawings were made. Interviews were conducted the evening of December 15, 2006 and continued the following day at the MSHA, Pineville Field Office. Seven persons, who had knowledge relevant to the accident, were interviewed.

DISCUSSION

Mine Planning and Development

On May 31, 2005, Riverside Energy Company, LLC submitted to MSHA a request for a mine identification number for the purpose of opening the Adkins Branch Mine No. 1A. Riverside Energy Company submitted a ground control plan and T & S Contractors Inc. was hired to perform earthwork activities for the initial development of the mine site.

Excavation of the mine access road, mine bench and development of the highwall began on June 1, 2005, by T & S Contractors Inc. under the direct supervision of Riverside Energy Company, LLC. The work was supervised by Dave Dalton, Supervisor for Riverside Energy Company, LLC. The site development was completed on August 18, 2005. During the mine site development, Riverside Energy Company, exercised full control over the design and construction of the mine bench, highwall and side slopes, and the mine access road.

In August 2005, Riverside Energy Company contacted Marco Mining, Inc. to operate the new mine. Kenneth Coe, President of Marco Mining examined the highwall, bench, and surroundings area of the projected mine site. Coe was concerned with the narrow mine bench. The projected mine portals were marked off by the land owner, Riverside Energy Company, LLC, to indicate the location where mining operations were to begin. Coe, in a meeting with Sam Hatcher, President of Riverside Energy Company, Inc., asked Hatcher to redevelop the bench and highwall to give him more working room on the bench, which would also put the highwall in a more stable condition, but Hatcher declined his request. Although Coe decided not to pursue mining efforts at this site, some initial plans were submitted to MSHA at this time.

In September 2005, O. A. Stump Jr., lessee of the mining equipment leased by Arjay Mining, Inc., traveled to the mine face-up and met with Hatcher and Robbie Ortiz, Mining Engineer for Riverside Energy Company, LLC, to discuss the operation of the

new mine. Due to the outcome of the meeting, Michael Tolbert, President of Arjay Mining, Inc., signed a contract with Riverside Energy Company, LLC to operate the mine.

Robbie Ortiz of Riverside Energy Company, LLC was given authorization to submit and sign any documents pertaining to Arjay Mining, Inc., in a letter submitted to MSHA concerning the ground control, roof control, training, and ventilation plans. Ortiz submitted a letter on behalf of Arjay Mining, Inc. to MSHA requesting to adopt the approved plans previously issued to the mine under Marco Mining, Inc.

During the month of November 2005, Tolbert and Stump began moving mining equipment to the Adkins Branch Mine No. 1A mine site. On November 30, 2005, Stump hired three employees, J. C. Woolridge, Mine Foreman; Roger Sexton, electrician; and Ricky Johnson, trainee-general outside laborer. The same day, all mining equipment, a substation, a parts trailer, and an office trailer had arrived on the mine site. The three employees and Stump performed maintenance work on the mining equipment located on the mine bench for seven working days from November 30, 2005 to December 9, 2005.

On December 12, 2005, Stump informed Woolridge that he had received an approval letter from MSHA concerning the roof control, ventilation, and training plan. Stump informed Woolridge that the mining would start on December 12, 2005. By the end of the day, mine openings had been developed. Mining continued, developing the numbers two through four entries during the next two days.

During this time, Riverside Energy Company continued to exercise some control of the mine by providing engineering services to Arjay Mining Inc. The engineering services included mine planning, mine surveying and site layout. In addition to the involvement at the site, Riverside Energy Company continued assisting with regulatory plan approvals for the new mine.

Plan Submittals

Michael Tolbert, President/Owner of Arjay Mining, Inc., signed a contract with Riverside Energy Company, LLC to mine the Lower War Eagle coal seam at the Adkins Branch Mine No. 1A. Tolbert submitted a letter to MSHA, received November 8, 2005, stating that Robbie Ortiz of Riverside Energy Company, LLC was authorized to sign any documents for Arjay Mining, Inc., concerning ground control, roof control, training and ventilation plans. An additional letter, signed by Robbie Ortiz, was received by MSHA which stated, "Arjay Mining, Inc., is requesting to adopt the approved plans issued to Marco Mining, Inc., Adkins Branch Mine No. 1A, MSHA ID No. 46-09106. We will be operating the mine under Arjay Mining, Inc., Adkins Branch Mine No. 1A." The plans adopted by Ortiz for the mine had not been read by Tolbert and Stump.

Ground Control Plan

Arjay Mining, Inc., did not establish and follow a ground control plan for the safe control of the highwall at this mine that was consistent with prudent engineering design and

insured safe working conditions. Persons were allowed to work beneath an unstable highwall which consisted of weathered, jointed formations. The formations contained dirt and unconsolidated small rocks in the face of the highwall.

Riverside Energy Company, LLC controlled the development of the mine bench and highwall for the development of the mine. The highwall was not developed in consolidated, competent rock for a height sufficient to insure stability above the mine openings. Some areas of the highwall had been developed in unstable soil on a near vertical angle. A bench and a diversion ditch, developed in soil and unconsolidated material, was above the mine entries. The disturbed, unstable material from construction of the ditch was left in place above the bench and the highwall. The ground control plan dated November 8, 2005, did not include any methods to control the above-described conditions or precautions to keep persons from being exposed to these ground hazards. Accordingly, MSHA did not acknowledge that the ground control plan was acceptable to insure safe working conditions.

Roof Control Plan

A roof control plan was approved by MSHA for the Adkins Branch Mine No. 1A on December 8, 2005. The approved roof control plan required that "all unstable material shall be removed from the highwall above intended mine openings and areas between openings where miners travel or are required to perform work. A substantially constructed canopy shall be provided at all intended drift or slope openings before penetrating the coal seam." The loose, unconsolidated materials, comprised of dirt and rocks, were allowed to exist over and between the new mine openings. Substantially constructed canopies were not provided at the intended drift openings before the mine openings were created.

The approved roof control plan also stated that "A 10-foot cut may be taken with a remote control continuous mining machine for the purpose of installing canopies under the edge of the highwall or portable canopies will be used to take the 10 foot cut. The canopy will be installed and secured from movement prior to installing roof supports." The canopies were not installed under the edge of the highwall, and a several-foot wide gap existed between the inby side of the canopy and the highwall in both the number two and number three mine openings. The canopies were not secured from movement prior to the installation of roof supports. In addition, the support columns, or legs, of the canopies were damaged prior to the canopy installation next to the highwall. The canopies were not maintained in a substantially constructed condition, which limited their ability to serve as an overhead protective device.

Workplace Examinations

A substation, a transformer, a parts trailer, an office trailer, and the mining equipment were on the mine site by November 30, 2005. Four employees of Arjay Mining worked at the mine bench from November 30, 2005, through December 9, 2005, excluding Saturday and Sunday, for a total of seven days. They performed maintenance work on the mining equipment on the bench of the highwall where the four mine portals were to

be developed. During this time, persons were exposed to the dangerous highwall and ground conditions; however, there were no records of examination and no documentation of hazardous conditions for this period.

Woolridge conducted a preshift examination on December 12, 2005, from 6:30 a.m. to 6:40 a.m. The examination record indicated that the "travelway from office appears safe to travel." The preshift examination record was signed by J. C. Woolridge, as the examiner and was countersigned by J. C. Woolridge as the mine manager/mine foreman. The examination record did not indicate the condition of the unstable highwall.

The daily and on-shift examination record conducted by Woolridge on December 12, 2005, did not list any violations and other hazardous conditions. It did show that the working places were examined at approximately two-hour intervals and 0% methane was recorded. The record also included the remark, "Went over roof control plan with the bolt crew on spacing of bolts." Woolridge signed the on-shift examination record as the assistant mine foreman (examiner) and as the mine foreman-mine manager.

A preshift examination was conducted by Woolridge on December 13, 2005, of mechanized mining unit 001 (MMU-001) from 6:30 a.m. until 6:41 a.m. The examination record was illegible concerning the number two and number three mine entries beneath the sub-title, "Violations and Other Hazardous Conditions Observed and Reported." Under the sub-title, "Remarks," Woolridge reported that the faces were clear, no CH4 (methane) was detected, and self contained self rescuers (SCSRs) were checked. The condition of the highwall was not recorded. Woolridge signed as the examiner and countersigned as the Mine Foreman.

The daily and on-shift examination record for December 13, 2005, conducted by Woolridge was illegible under the sub-title, "Violations and Other Hazardous Conditions Observed and Reported." Also under the sub-title, "Examinations for Methane in Working Places", the record indicates 0% methane for the number two and three working places every two hours, starting at 7:15 a. m. The record does not indicate the hazardous condition of the unstable highwall.

On December 14, 2005, the preshift examination record was not legible under the sub-title, "Violations and Other Hazardous Conditions Observed and Reported." Beneath the sub-title, "Remarks," "Travel way across the yard appears safe to travel, no CH4 detected in #2 and #3, SCSR's were checked." The daily and on-shift examination record was also illegible under the sub-title "Violations and Other Hazardous Conditions Observed and Reported." Beneath the sub-title, "Examinations for Methane in Working Places," the number four working place was added to the examinations every two hours. Neither the preshift or on-shift examination record indicated the hazardous condition of the unstable highwall. The examinations were conducted by Woolridge.

On December 15, 2005, the day of the fatal accident, Woolridge reported on the preshift examination record that his examination was conducted from 6:05 a. m. to 6:29 a. m. Under the sub-title, "Violations and Other Hazardous Conditions Observed and

Reported", Woolridge reported, "#2 partly bolted-danger off, #3 not bolted-danger off, #4 need bolt on left side-reported." The air reading at the fan was 72,000 cubic feet per minute (cfm). Woolridge reported beneath the sub-title "Remarks," "Roadway from office portal appears safe to travel, no CH4 detected in the faces." Woolridge signed as the examiner.

From December 12, 2005, through December 15, 2005, Woolridge conducted the preshift and on-shift examinations of the surface areas where the mine openings were to be started and of the highwall above the projected mine openings. However, the hazards of the unstable highwall and ground conditions were not reported, recorded or corrected. During the four day period, no hazardous conditions were reported in either the preshift or on-shift examination records.

Training

East began his employment at Adkins Branch Mine No. 1A on December 13, 2005. Training records indicated that Woolridge instructed him on newly employed experienced miner training, hazard training, and task training on the shuttle car, scoop, and roof bolting machine.

Gorsky, was hired by Stump on December 9, 2005. Training records showed Woolridge instructed him on experienced miner, hazard, and new task training on December 9, 2005. However, Gorsky did not receive newly employed experienced miner training before performing work, nor did he receive task training before performing roof bolting duties.

Woolridge, did not receive any training prior to performing work duties. Sexton's training records were up to date for newly employed experienced miner and hazard training.

Stump performed work duties at the mine site including, operating a shuttle car, hauling coal with a Joy shuttle car, operating a front-end loader, and roof bolting the mine roof. Stump did not receive any training before performing work at the mine site. In addition, Stump supervised employees and directed work assignments without any required training.

ROOT CAUSE ANALYSIS

A root cause analysis was conducted to identify the most basic causes of the accident that were correctable through reasonable management controls. Listed below are root causes identified during the analysis and their corresponding corrective actions implemented to prevent a recurrence of the accident.

1. Root Cause: The operator did not adopt effective designs or procedures to ensure the stability of the highwall. Similarly, the operator's ground control plan did not include methods to control existing hazardous conditions or precautions to keep persons from being exposed to these ground hazards. The highwall was not developed in consolidated, competent rock for a height sufficient to insure stability above the mine openings. Some areas of the highwall had been developed in dirt, on a near vertical angle, and were not stable. A bench and a diversion ditch had been developed in dirt and unconsolidated material above the entries. The disturbed material from the ditch construction was left in place on the bank above the bench and highwall. Portions of the dirt bench had fallen to the floor of the mine bench.

   Corrective Action: Arjay Mining, Inc., submitted a plan to safely remove all mining equipment from the mine site. Riverside Energy Company, LLC., current owner of the mine site, does not plan to pursue any further mining at this site and plans to reclaim it.

2. Root Cause: The operator did not have effective policies or procedures in place to ensure adequate examinations were conducted to identify and correct hazardous conditions. J. C. Woolridge, Mine Foreman, Preshift and On-Shift Examiner of the mine and work site, either did not recognize the hazardous conditions that were present during his examinations or chose to ignore them. From November 30, 2005, to December 9, 2005, as persons were performing maintenance work to the mining equipment on the mine bench, they were exposed to the dangerous highwall and ground conditions.
   During the development of the four mine portals, from December 12, 2005 to December 15, 2005, Woolridge did not report the hazardous conditions that existed to persons while they were performing work at and near the unstable highwall. The hazardous conditions were not reported in the preshift/on-shift daily report record book.

   Corrective Action: The hazardous conditions were discussed with the mine operator and Woolridge. The mine operator submitted a plan to safely remove all mining equipment from the mine site. Riverside Energy Company, LLC., current owner of the mine site, does not plan to pursue any further mining at this site and plans to reclaim the mine site.

3. Root Cause: The operator exerted no administrative control to ensure compliance with the approved roof control plan. Tolbert and Stump, who directed work activities at the mine site, did not read the adopted roof control and ground control plans prior to the commencement of work. Unstable material was not removed from the

highwall above intended mine openings and areas between openings where miners travel or are required to perform work and substantially constructed canopies were not properly installed at all intended drift or slope openings before penetrating the coal seam, as required by the approved roof control plan.

Corrective Action: The mine operator submitted a plan to safely remove all mining equipment from the mine site. Riverside Energy Company, LLC, owner and permit holder of the mine site, does not plan to pursue any further mining at this site and plans to reclaim the mine site.

CONCLUSION

The highwall developed by Riverside Energy Company, LLC to be used to access the underground mine was not developed in consolidated, competent rock for a height sufficient to insure stability above the mine openings. The ground control plan did not include methods to control the hazardous highwall conditions or precautions to be taken to keep persons from being exposed to the ground hazards.

Mining conducted in the number one entry by Arjay Mining exposed weathered incompetent roof rock which fell during the initial installation of permanent roof supports in the mine entry. Additionally, the provided canopy installation was not sufficient to prevent injury to persons from the falling roof material. Hazardous conditions were either not recognized or ignored during numerous workplace examinations. The accident resulted from failure to follow proper mining practices, procedures, and applicable regulations. The lack of effective administrative controls contributed to the accident.

ORIGINAL SIGNED BY
Jesse P. Cole
District Manager

MAY 24, 2006
Date

ENFORCEMENT ACTIONS

1. A 103(k) order, No. 7247035 was issued to assure the safety of all persons at this operation until an investigation could be completed. The order prohibited all activity at the mine until MSHA determines that it is safe to resume normal mining operations in the affected area(s).

2. 104(d)(1) citation, No. 7247087 was issued to the initial mine operator, controlling land owner and permit holder, Riverside Energy Company, LLC, for a violation of 77.1000. The mine operator did not establish and follow a ground control plan for the safe control of the highwall that was consistent with prudent engineering design and insured safe working condition. The highwall above the Lower War Eagle coal seam constructed for the development of four mine entries was not developed in consolidated, competent rock for a height sufficient to insure stability of the mine openings. Some areas of the highwall had been developed in dirt, on a near vertical angle, and were not stable. A bench and diversion ditch had been developed in dirt and unconsolidated material above the mine entries. The disturbed material from the ditch construction was left in place on the bank above the mine bench and highwall. The disturbed material was not stable. Portion of the dirt bench had fallen to the floor of the mine bench. This condition was one of several contributing factors to a fatal mining accident that occurred at the drift opening of the number one entry on December 15, 2005.

3. 104(d)(1) citation, No. 7247046 was issued to the mine operator, Arjay Mining, Inc., for a violation of 77.1000. The mine operator did not establish and follow a ground control plan for the safe control of the highwall at the mine that was consistent with prudent engineering design and insured safe working conditions. The highwall above the Lower War Eagle coal seam constructed to face-up for the development of four entries to be used as portals for an underground mine was not developed in consolidated, competent rock for a height sufficient to insure stability above the mine openings. Some areas of the highwall had been developed in dirt, on a near vertical angle, and were not stable. A bench and a diversion ditch had been developed in dirt and unconsolidated material above the entries. The disturbed material from the ditch construction was left in place on the bank above the bench and highwall. The material was not stable. Portions of the dirt bench had fallen to the pit floor. Openings existed between the edge of the highwall and the canopies. The ground control plan for the mine dated November 8, 2005, did not include any methods to be used to control the above-described conditions or precautions to be taken to keep persons from being exposed to these ground hazards.

4. 104(d)(1) order, No. 724748 was issued to the mine operator, Arjay Mining, Inc., for a violation of 75.360(b)(3). An inadequate preshift examination was performed at this mine site from December 12, 2005, through December 15,

2005. J. C. Woolridge, preshift examiner designated by the operator, failed to recognize the hazards that existed to persons performing work at and near the unstable highwall. No hazardous conditions were reported during the four-day period while the new mine openings were being created. Hazardous conditions existed during this time period to persons working under and near the toe of highwall. The highwall above the bench was not developed in consolidated, competent rock. Some areas of the highwall had been developed in dirt, on a near vertical angle, and were not stable. A bench and diversion ditch had been developed in dirt and unconsolidated material above the entries. The disturbed material from the ditch construction was left in place on the bank above the bench and highwall. The material was not stable. Portions of the dirt bench had fallen to the floor of the mine bench.

5. 104(d)(1) order No. 724749 was issued to the mine operator, Arjay Mining, Inc., for a violation of 75.362(a). An inadequate on-shift examination was performed at this mine site from December 12, 2005, through December 14, 2005. J. C. Woolridge, on-shift examiner designated by the operator, failed to recognize the hazards that existed to persons while performing work at and near the unstable highwall. No hazardous conditions were reported during the three days while the new mine openings were being created. Hazardous conditions existed to persons working under and near the toe of the highwall. The highwall above the bench was not developed in consolidated, competent rock. Some areas of the highwall had been developed in dirt, on a near vertical angle, and were not stable. A bench and diversion ditch had been developed in dirt and unconsolidated material was present above the mine entries. The disturbed material from the ditch construction was left in place on the bank above the bench and highwall. The material was not stable. Portions of the dirt bench had fallen to the floor of the mine bench.

6. 104(d)(1) order, No. 7247050 was issued to the mine operator, Arjay Mining, Inc., for a violation of 75.220(a)(1). The mine operator did not follow the approved roof control plan that was suitable to the prevailing geological conditions and the mining system to be used at this mine. The approved roof control plan required all unstable material to be removed from the highwall above intended mine openings and areas between openings where miners travel or are required to perform work. The highwall above the bench was not developed in consolidated, competent rock. Some areas of the highwall had been developed in dirt, on a near vertical angle, and were not stable. A bench and diversion ditch had been developed in dirt and unconsolidated material above the entries. The disturbed material from the ditch construction was left in place on the bank above the bench and highwall. The material was not stable. Portions of the dirt bench had fallen to the floor of the mine bench.

7. 104(d)(1) order, No. 7247051 was issued to the mine operator, Arjay Mining, Inc., for a violation of 75.220(a)(1). The Order stated, “The mine operator did not follow the roof control plan (dated December 8, 2005), approved by the

District Manager, that was suitable to the prevailing geological conditions, and the mining system to be used at this mine. The approved roof control plan stated under the title 'General Safety Precautions To Be Taken', page 11, 'A 10 foot cut may be taken with a remote control continuous mining machine for the purpose of installing canopies under the edge of the highwall or portable canopies will be used to take the 10 foot cut. The canopy will be installed and secured from movement prior to installing roof supports. Substantially constructed canopies of steel, reinforced concrete, or equivalent shall be provided at all intended drift and slope openings prior to being used by workers to enter and exit the mine.' The canopies were not installed under the edge of the highwall. A several foot wide gap existed between the inby side of the canopy and the existing highwall in the #1, #2, and the #3 new mine openings that were created. The canopies were not secured from movement prior to installing roof supports in the newly created mine openings listed above. The canopies were not maintained jn substantially constructed condition. These canopies were moved from another mine site to this mine site. The legs of the canopies were bent. This condition compromises the support strength of the canopies."

APPENDIX A

List of persons furnishing information and/or present during the investigation:

Arjay Mining, Inc.

Michael Tolbert.....Owner/President
O. A Stump ..... Superintendent
J. C. Woolridge .....Mine Foreman
Donnie Coleman .....Safety Consultant
Johnny Gorsky ..... Roof Bolting Machine Operator
Ricky Johnson.....Outside General Laborer
Roger Sexton..... Electrician/Mining Machine Operator

Marco Mining, Inc.

Kenneth Cole .....President

T & S Contractors Inc.

Ted Blankenship .....President
Teford Belcher ..... Foreman
Jeff Glass..... Foreman

West Virginia Office of Miner's Health, Safety and Training

Fred Stinson .....Inspector-At-Large
Terry Farley .....Accident Investigator
Bob Thornsbury ..... District Electrical Inspector

Mine Safety and Health Administration

Jesse Cole..... District Manager
James Humphrey.....Coal Mine Safety and Health Inspector
Roger Richmond .....Supervisory Coal Mine Safety and Health Inspector
Sherman Slaughter .....Mine Safety and Health Specialist/
Jon Braenovich.....Supervisory Mining Engineer/Roof Control
Donald Winston .....Mining Engineer/Roof Control
Luther Marrs .....Assistant District Manager